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Legislative Effectiveness & Legislative Life

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Legislative Effectiveness and Legislative Life[1]

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July, 2004

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Abstract

We study an under-utilized source of data on legislative effectiveness, and exploit its panel structure to uncover several interesting patterns. We find that effectiveness rises sharply with tenure, at least for the first few terms, even after controlling for legislators' institutional positions, party affiliation, and other factors. Effectiveness never declines with tenure, even out to nine terms. The increase in effectiveness is not simply due to electoral attrition and selective retirement, but appears to be due to learning-by-doing. We also find evidence that a significant amount of "positive sorting" occurs in the legislature, with highly talented legislators moving more quickly into positions of responsibility and power. Finally, effectiveness has a positive impact on incumbents' electoral success, and on the probability of moving to higher office. These findings have important implications for arguments about term limits, the incumbency advantage, and seniority rule.

1. Introduction

Good laws do not make themselves. They require inputs of time, energy, information, and thought. Holding hearings, drafting bills, amending bills, building coalitions, and investigating executive implementation are necessary parts of the process. Who does this work in U.S. legislatures? Which legislators are especially effective at the job of lawmaking? What are the determinants of effectiveness? Do legislators become more effective with experience, through learning-by-doing or by investing in specific human capital?

Viewed as a law-producing organization, an efficient legislature would allocate talent to where it is needed and productive. It would also employ incentive schemes that reward lawmakers who are diligent, skilled, and effective. In addition, voters would play a role, by rewarding effective legislators with reelection. If experience is an important component of legislative effectiveness, then reelection is important to permit legislators to gain experience. How efficient are U.S. legislatures in these terms? Do more effective legislators win reelection more often? Do they rise more quickly to positions of power inside legislatures? What is the relative importance of effectiveness and other factors, such as seniority or party loyalty?

We know little about the answers to these questions, in large part because we lack measures of the relative diligence, skill, or effectiveness of politicians. This paper exploits data on legislator "effectiveness" for the North Carolina House of Representatives for the period 1977-2001, collected by the North Carolina Center for Public Policy Research (NC Center). The NC Center surveys about 500 legislators, lobbyists, and journalists at the end of each "long" legislative session, and asks them to assess how effective each legislator was during that session.[1] The respondents were asked to order legislators according to their work in committees and on the floor, their general knowledge and expertise in special fields, their ability to influence the opinion of fellow legislators, and their general aptitude for the

[1]The NC state legislature has biennial regular sessions. These "long" sessions convene in January following each election. In addition, there have been special "short" sessions in virtually every even-numbered year since 1974.

legislative process. The measure is probably the best available for any U.S. legislature.[2] We discuss it in more detail below.

We view effectiveness as the product of three factors: (i) the intrinsic aptitude of a legislator, (ii) on-the-job learning or investing in specific legislative skills, and (iii) institutional positions a legislator holds, such as committee or party leadership positions, or membership in the majority party.[3] Much of our analysis attempts to estimate the relative importance of each of the three factors.

Our findings are as follows. First, legislators who hold positions of power – committee chairs, vice-chairs and subcommittee chairs on the most important committees, chamber leadership posts, *etc.* – are more effective than those who do not. Second, members of the majority party are, on average, more effective than those in the minority.

Third, effectiveness rises sharply with tenure, at least for the first few terms, even after controlling for legislators' institutional positions, party affiliation, and other factors. There is no evidence that effectiveness eventually declines with tenure, even out to nine terms. The impact of legislative experience on effectiveness is not simply due to electoral attrition and selective retirement, with higher-quality legislators being more likely to win reelection. Rather, the results suggest that the increased effectiveness is due to the acquisition of specific human capital, most likely through learning-by-doing.

Fourth, legislators who are more effective in their first term in office – arguably, a good measure of the aptitude for legislative work – are promoted more quickly to powerful positions

[2]In 1992, State Policy Reports wrote: "Most attempts at reputational rankings of state legislators don't deserve much credibility because of three problems: (1) no precise definition of who is being polled, (2) a low response rate among those polled because legislators and lobbyists don't want to risk getting caught making statements suggesting people they work with are ineffective, or (3) definitions of effectiveness that equate effectiveness with helping to enact an interest group's agenda... Over the years, Reports has seen many of these... that fail one or another of these tests. The exception is the rankings that have been done since 1978 by the North Carolina Center." In 1996, Governing magazine (published by Congressional Quarterly, Inc.) wrote: "The ratings issued by the North Carolina Center for Public Policy Research are perhaps the most straightforward and most widely respected." Rankings or partial rankings are available for some other states as well, including Arkansas, California, Florida, Texas, and Washington.

[3]We use the term aptitude broadly, to include not only abilities but also preferences. Some people enjoy legislative work and are willing to work hard at it, while others do not.

in the chamber and in important committees. This indicates that positive sorting occurs, which is what we would expect in an efficient legislature.

Finally, effectiveness has a positive impact on incumbents' electoral success. Legislators who are more effective are less likely to be challenged and more likely to win reelection. They are also more likely to seek higher office, and more likely to win such office conditional on seeking it. Higher effectiveness also reduces the probability of retirement.

These findings have important implications for term limits, the incumbency advantage, seniority rule, and political accountability. We discuss these implications in section 8.

Before proceeding, we must acknowledge two limitations of the study. First, the analysis is limited to one state, so we must be cautious in drawing general conclusions about legislatures outside of North Carolina. Many of our findings are consistent with those of others studies, however, so we are willing to speculate about their broader implications. Second, although the effectiveness data for North Carolina is probably the best available for any legislature in the U.S., it is still based on subjective evaluations. More objective measures are clearly desirable. Unfortunately, the existing measures – such as those based on counts of bill activity, amendment activity or attendance – capture only a small part of effectiveness. One way to proceed in such a situation is to identify the relationships found using different measures, then focus on those that appear in study after study. Our paper could then be viewed as one small part of this broader enterprise.

2. Related Literature

As noted above, relatively little research has been done on the determinants or effects of individual legislator performance. There are, however, some notable exceptions.

Several papers use bill introduction and amendment activity to measure performance. Wawro (2000) uses sponsorship and co-sponsorship to construct "entrepreneurship" scores for all U.S. House members serving in the 94th-103rd Congresses. He finds that higher levels of entrepreneurial activity help Democratic representatives advance into leadership

positions, but there is no effect for Republicans. Entrepreneurship does not appear to have a significant impact on voters' evaluations or vote choices. Schiller (1995) also uses bill sponsorship to measure entrepreneurship, and studies the U.S. Senate during the 99th and 100th Congresses. She finds that senior senators sponsor more bills than junior members, as do senators who hold committee chairs or are chairs of a large number of subcommittees. Hamm *et al.* (1983) find that leadership positions and seniority are strong predictors of legislative activity and bill success in the Texas and South Carolina state legislatures.

Other studies employ subjective measures of performance, or a mix of subjective and objective measures. One of the earliest is Francis (1962), who studies several determinants of "influence" in the Indiana state senate. More recently, Mayhew (2000) studies "prominent" actions taken by members of the U.S. Congress over a 200-year period. He finds that in recent decades legislators tend to have a large amount of experience – or at least seniority – before they take prominent legislative actions. DeGregorio (1997) surveyed 97 professional interest group advocates, and asked them to identify congressional "leaders" on six key bills passed during the 100th Congress. She reports that the following variables were significant predictors of whether a representative was identified as a leader: tenure, majority party status, holding a party leadership position, and membership on policy-relevant committees. Luttbeg (1992) studies journalists' rankings of legislators in several states, and finds that legislators with the highest rankings have a 12% higher probability of reelection than those with the lowest rankings. Meyer (1980) surveyed state representatives in North Carolina in 1973 to estimate the determinants of the "most influential" members.

Mondak (1995c) and Mondak and McCurley (1995) derive measures of "integrity," "competence" and "quality" from content analysis of the descriptions of U.S. House members in the *Almanac of American Politics* and *Politics in America*. Mondak (1995c) finds that low-quality incumbents are more likely to leave congress after a few terms, via voluntary retirement or electoral defeat. Quality also affects the level of challenger spending and vote-margins in primary elections. These effects seem to be driven more by competence than

integrity. McCurley and Mondak (1995) focus on the link between incumbent quality and voters' opinions as revealed in the National Election Studies. They find that incumbent integrity directly influences both feeling thermometer scores and voting choices, while competence affects elections indirectly via the behavior of potential challengers.

Finally, two papers study North Carolina and use legislator effectiveness data from the NC Center. Weissert (1991) focuses on issue specialization, and finds that legislators who introduce bills on "salient" issues are rated as more effective than other legislators. Haynie (2002) focuses on racial discrimination, and finds evidence that black legislators are viewed as less effective than white legislators even after controlling for other factors. Both papers also find that effectiveness increases with seniority, and that it is higher for members who hold committee chairs or chamber leadership positions, for members of the majority party, and for members who introduce more bills. Lawyers also appear to be more effective.

Our results add to this literature in several ways. We have much more data on legislator performance than any of the studies above except Wawro (2000), Weissert (1991), and Haynie (2002). Our data also do not suffer as severely from potential sample selection issues as the data of Mondak and associates, since we have data on all legislators.[4] Perhaps most importantly, we are able to follow legislators for many terms and study the dynamics of their legislative careers. Only Wawro (2000) conducts any dynamic analyses similar to ours below. This is mainly due to data limitations, of course – *e.g.*, DeGregorio (1997) only has a snapshot of one congress, and Mondak (1995c) and McCurley and Mondak (1995) cannot construct a meaningful panel of congressional competence or integrity indices.

3. Data and Sources

As noted above, we study the North Carolina state legislature because it probably has the best available data on legislator effectiveness of any U.S. legislature.

[4]They are able to assign scores on one or both attributes to 75% of the relevant sample (403 out of nearly 550). The missing congressmen are those for which neither the Almanac of American Politics nor Politics in America provided sufficiently detailed information. This is almost certainly a non-random subsample of individuals.

3.1. A Bit of Background

The North Carolina legislature is called the General Assembly. It consists of two chambers, a House of Representatives with 120 members and a Senate with 50 members. All members are elected every two years for two-year terms. The General Assembly is typically described a hybrid – an amateur, citizens' legislature with some professional characteristics. Regular legislative sessions are biennial, convening in January following each election. In addition, there have been special sessions or short sessions in virtually every even-numbered year since 1974. In 1986-88 the North Carolina legislature was ranked 22nd by Squire's (1992) index of legislative professionalism. In 2001 legislative salaries were $13,951 plus a $104 per diem for living expenses. Legislative leaders earned substantially more – *e.g.*, the Speaker of the House received a salary of $38,151 and an expense allowance of $16,956.[5]

The Democratic Party dominated the North Carolina General Assembly until very recently. Democrats held 86% of all state legislative seats during the period 1970-1979, 77% during 1980-1989, and 61% during 1990-1999. In 1994 Republicans won control of the state House for the first time in 100 years. They won again in 1996, but then lost in 1998.[6] Internally, the legislature is organized mainly along party lines. The majority party controls all committee chairs, but some vice-chairs and subcommittee chairs go to the minority. Electorally, party organizations in North Carolina are stronger than in most other southern states, but typically rank just below the U.S. average (see, *e.g.*, Cotter, *et al.*, 1984). Morehouse (1981) classified North Carolina as a state in which pressure groups are strong.

3.2. Measuring Legislator Effectiveness

The data on legislator effectiveness comes from the North Carolina Center for Public

[5]Despite its character as a citizens' legislature, some observers argue that until recently the North Carolina General Assembly was one of the most powerful legislative bodies in the nation. This is due to the fact that until 1996 the governor of North Carolina had no veto.

[6]The 2002 elections produced an exact 50-50 split in the House, resulting in a unique system of shared control. Democrats controlled the state Senate throughout the period under study, but with a narrow 26-24 margin during 1995-1996.

Policy Research (NC Center), an independent non-partisan organization.[7] At the end of each regular legislative session after the legislature has adjourned, the NC Center asks state legislators, lobbyists and legislative liaisons, and capital news correspondents to rate the "effectiveness" of each member of the General Assembly. According to the NC Center:

> Ratings were to be based on their participation in committee work, their skill at guiding bills through floor debate, their general knowledge and expertise in special fields, the respect they command from their peers, the enthusiasm with which they execute various legislative responsibilities, the political power they hold (either by virtue of office, longevity, or personal attributes), their ability to sway the opinion of fellow legislators, and their aptitude for the overall legislative process. (From *Article II: A Guide to the 1991-1992 N.C. Legislature*, p. 212.)

The NC Center has conducted this survey continuously since 1977. The sample includes all 170 legislators, all lobbyists registered in the state capital who reside in North Carolina (250-325 lobbyists), and all journalists who regularly cover the state General Assembly (35-45 journalists), for a total sample size of 475-550.[8] The NC Center publishes a ranking based on these ratings in its biennial handbooks, *Article II: A Guide to the N.C. Legislature.*

We focus on the North Carolina House of Representatives because it is larger. As noted above, this chamber has 120 members. Our main variable of interest is the effectiveness ranking of each representative in each session. A good descriptive title for this variable might be "Relative Legislative Performance," but we use the shorter term *Effectiveness* in the text and tables below. We "invert" the ranking so that higher values mean greater

[7]The NC Center was created in 1977. It is "an independent, nonprofit organization dedicated to the goals of a better-informed public and more effective, accountable, and responsive government" (see the URL: http://www.nccppr.org/mission.html#mission).

[8]Response rates were only about 33% for the period 1977-1981, but have been over 50% since 1985. For more information see the North Carolina Political Review's August 2002 interview with Ran Coble, executive director of the NC Center. The text of the interview can be found at URL: http://www.ncpoliticalreview.com/0702/coble1.htm.

effectiveness – thus, the highest ranked legislator in each session receives an *Effectiveness* value of 120, and the lowest ranked legislator receives a value of 1.[9]

Some of our analyses use the effectiveness rankings legislators receive at the end of their first term of service. As noted above, this might serve as a measure of a legislator's general aptitude for legislative work. We call this *Effectiveness 1.*

As noted above, the main weakness of the *Effectiveness* rankings is that they are based on subjective evaluations. This disadvantage is offset by several desirable characteristics: Each ranking is based on a large number of evaluations; the evaluators are all legislative "specialists" of one sort or another; and the rankings are constructed in a consistent manner over a long period of time.

Two other facts about the rankings are encouraging. First, between 1977 and 1992 the NC Center reported the average evaluation that each representative received from each of the three types of respondents – legislators, lobbyists, and journalists – in addition to the overall evaluation and ranking. The correlations across the three separate scores are quite high: the correlation between the average rating by legislators and the average rating by lobbyists is .93, the correlation between the average rating by legislators and the average rating by journalists is .89, and the correlation between the average rating by lobbyists and the average rating by journalists is .91. Thus, various biases that we might imagine in the responses – *e.g.*, lobbyists might systematically underrate legislators who oppose their positions, and legislators might systematically underrate members of the opposing party – do not appear to be a problem.

Second, the NC Center's *Article II* guides also contain information on the number of bills each member introduced, and how many of these became law. For representatives serving during the period 1981-2000, the correlation between *Effectiveness* and the number of bills

[9]The ranking reported by the NC Center is constructed as follows: Let E_1 be the average evaluation a legislator receives from legislators, let E_2 be the average evaluation the legislator receives from lobbyists, let E_3 be the average evaluation a legislator receives from journalists, and let $\bar{E} = (E_1+E_2+E_3)/3$. Legislators are ranked according to the $\bar{E}$'s. Thus, the three groups of respondents – legislators, lobbyists, and journalists – are weighted equally.

introduced is .51, and the correlation between *Effectiveness* and the number of bills ratified is .50. Thus, the more objective measures of activity are strongly and positively related to *Effectiveness*. On the other hand, the correlation is far from 1, indicating that *Effectiveness* measures something other than simply introducing and passing bills.

Another issue is that *Effectiveness* is an ordinal variable, so attenuation bias may be a concern. Of course, this bias generally makes it more difficult to find statistically significant relationships, so we are not concerned that it introduces spurious correlations. Pooling the ordinal data across years could exacerbate the problem further. To address this, we include year-specific fixed effects in all analyses. We also include member-specific fixed member-specific effects in most of our analyses – thus, our identification is based mainly on changes in members' rankings over time. In addition, for a subset of years we can use the "raw" average effectiveness evaluations rather than rankings. These probably suffer less from the problems associated with ordinal data. Using the raw evaluations, we obtain qualitatively similar results to those reported below.

3.3. Other Variables

Our analyses require other measures as well, including election outcomes and contestation rates, party affiliations, committee assignments and leadership posts, legislative tenure, and roll call voting records. These variables are all described in Table A.1, with summary statistics given in Table A.2.

Data on committee assignments, leadership posts, and tenure are from the NC Center's *Article II* guides and from various editions of the *North Carolina Manual*. These books contains a complete list of each legislator's committee assignments and major subcommittee assignments, including information about whether the member served as chairman, co-chairman, vice chairman, or ranking member. In addition, the NC Center's survey provides information about the relative importance of different committees. Each respondent was asked to name the five or six "most powerful" committees in both houses. The most power-

ful committees almost always included Appropriations, Finance, Judiciary I, and Rules, and Education from 1989 onward.[10]

We construct the variable *Chamber Leader* to indicate legislators who held one of the following positions: Speaker of the House, Majority Leader, Minority Leader, Deputy Speaker of the House, Majority Whip, and Minority Whip. We also construct several committee leadership variables, including *Chair of Power Committee*, *Leader of Power Committee*, and *Chair of Other Committee*. We define *Tenure* as the number of terms a legislator has served continuously in the state House, including the present term. We also define several dummy variables: *Tenure 1* = 1 for freshman, *Tenure 2* = 1 for sophomores, and so on. We employ two party variables, *Democrat* and *Majority Party*. Democrats controlled the House from 1979-1994 and again from 1999-2000, but the Republicans controlled it during the period 1995-1998. In some specifications we include certain personal characteristics of members: *Age*, *Age at Entry*, *Lawyer*, and *Previous Service*. This information was collected from various editions of the *North Carolina Manual*.

In order to estimate the impact of effectiveness on election outcomes, we must control for the "normal vote" in each legislative district (Converse, 1966). We use the votes cast in statewide offices to estimate the *Normal Vote*. Due to redistricting we have three different sets of districts, and due to data limitations we use three slightly different sets of statewide offices for the three periods.[11]

[10]Other committees appeared on the list in particular years – e.g., Judiciary III in 1983 and Judiciary IV in 2001. In 1991, a redistricting year, the Redistricting committees were among the top six. Respondents were also asked to name the "most influential" lobbyists.

[11]For 1978-1980 we calculate the average Democratic share of the two-party vote for governor, senator, and president, using county-level data. (Prior to 1982, no counties were split across state house districts, but larger counties elected all their state legislators at-large.) The data are from ICPSR Study Number 13. For 1982-1990 we calculate the average Democratic share of the two-party vote for all available statewide races held during the period 1984-1990. These offices are: U.S. Senator, Governor, Lieutenant Governor, Secretary of State, Treasurer, Auditor, Attorney General, Commissioner of Agriculture, Commissioner of Insurance, Commissioner of Labor, and Superintendent of Public Instruction. Due to a redistricting between the 1982 and 1984 elections, we can only estimate the Normal Vote for 87% of the 1982 House districts. There was yet another redistricting in 1985, but in this case the court simply ordered the merging of three House districts into a single district. We aggregated precinct-level data to the legislative district level; the precinct-level data are from the *Record of American Democracy* (ROAD) database. For 1992-2000 we calculate the

Finally, to measure election outcomes we collected general election data on all candidates running for the North Carolina General Assembly during the period 1976-2000. We obtained this data from ICPSR Study Number 8907, and from the official election results published by the North Carolina State Board of Elections. We used this data to construct several measures, including *Uncontested*, and *Reelected*. We also found all cases where a state representative ran for a statewide office, the U.S. Congress, or the state senate, and created the variable *Sought Higher Office*.[12]

4. The Determinants of Average Effectiveness

We begin by studying the determinants of average *Effectiveness* in the legislature. Since we observe most legislators for two or more terms, the data have a panel structure. We exploit this by estimating fixed effects and random effects models, with an individual effect for each legislator. The panel is unbalanced, however, so it must be treated with some care. We address this in more detail in section 5.

From a theoretical point of view, we consider *Effectiveness* as the relative "output" of a representative during a term. The production function used to generate this output employs three conceptually different factors. The first factor is a member's intrinsic capability or aptitude for legislative work. The main way we capture this is by using legislator-specific fixed effects. Alternatively, in some specifications we use random effects and also include measures of some of the characteristics that common sense or previous research suggests should affect ability, including occupation, age, and prior service. The second factor is a member's portfolio of formal leadership positions in the legislature. Party leaders, committee chairs and vice-chairs, subcommittee chairs, and members of the most powerful committees are likely to be more effective at passing and blocking legislation than other legislators.

average Democratic share of the two-party vote for all statewide elected offices in the 2000 election. Again, we aggregated precinct-level data to the legislative district level; the precinct-level data are from the North Carolina State Board of Elections (URL: http://www.sboe.state.nc.us).

[12]We obtained some of this data in reports from the NC State Board of Elections and the NC State Legislative Library, and we extracted some from the URL: http://www.sboe.state.nc.us.

Members of the majority party may also have an advantage in building winning coalitions for their proposals. The third factor is experience, which should affect performance through learning-by-doing or investment in skills and knowledge specific to the legislature.

In Table 1 we attempt to isolate the effects of these three sets of variables. The table reports regression results with *Effectiveness* as the dependent variable for various sub-samples. The first two columns pool all representatives present in the House from 1977 to 2001. Columns 3-6 compare the parties' delegations. Columns 1, 3 and 5 present fixed effects estimates, and columns 2, 4 and 6 contain random effects estimates. The Hausman specification tests typically reject the null hypothesis that the individual effects are orthogonal to the regressors. We report the random effects results nonetheless, because they allow us to gauge the impact of individual characteristics that are time invariant. The fact that the coefficients do not vary much between the specifications gives us some confidence that the random effects estimates are meaningful.

Not surprisingly, legislators who hold the top leadership posts – chamber leaders and chairs of the five most powerful committees – tend to be rated among the most effective. These posts are worth about 12-16 positions on the ranking scale (1-120). Other leadership posts, which include chairs of less important committees, also have significant effects in the range of 6-8 positions. The magnitude of these coefficients appears somewhat higher for Republicans, which had minority status for most of the period, but the differences across parties are not statistically significant.

Membership in the majority party also has a large, positive impact on *Effectiveness*. We can estimate this even with individual fixed effects by exploiting the switches in majority party control that occurred in 1994 and again in 1998. Republicans took control following the 1994 elections, and Democrats regained control after the 1998 elections. The coefficients show that majority party status increases a legislator's ranking by 20 positions, a large jump. This is even larger than the effect of becoming a chamber leader or powerful committee chair.[13]

[13]The year coefficients for 1994 and 1996 are significantly different than the rest of coefficients in the

This finding deserves special attention in view of the ongoing debate about whether and how parties matter in U.S. politics. Rohde (1991), Aldrich (1995), Aldrich and Rohde (2000, 2001), and others argue that members of the majority party in the U.S. Congress are advantaged due to their ability to organize the chamber. Cox and McCubbins (1993, 2002) argue that the majority party uses its power to control the legislative floor agenda. In contrast, Krehbiel (1993, 1998, 1999) and others argue that the majority party in Congress has little agenda control, and that majority party status confers few policy-relevant benefits.

Our findings support the view that being in the majority party does matter.[14] The large effect of majority party status is especially interesting because North Carolina is not known as a "strong party" state. Party affiliation may have an even larger impact in other states.

The random effects estimates indicate that lawyers are especially effective legislators. Weissert (1991) found this previously. It is not surprising that lawyers are more effective, since legislators make laws and lawyers have years of specialized training in the theory and application of law, legal jargon, and so on.[15] What is surprising is the magnitude of the effect – for example, being a lawyer appears to have a larger impact on *Effectiveness* than being the chair of a powerful committee.

Previous service in the state legislature only appears to matter for Democrats. This may be a consequence of the fact that Democrats had large majorities in both chambers until the late 1980s and 1990s, giving them a larger pool of candidates with prior experience. The same is true for the variable *Age at Entry*.

The first set of variables in Table 1 captures the effects of experience. The coefficients on the *Tenure* variables are large and highly significant in all specifications. Legislators in their second term are on average 17 positions ahead of their freshmen counterparts, and legislators

nineties for columns 3-6 – smaller for Democrats and larger for Republicans – indicating the presence of majority party effects.

[14]Ansolabehere and Snyder (1999) and Cox and Magar (1999) find that majority party status matters for campaign contributions, which could be related to power.

[15]An anonymous referee suggested that lawyers may be especially effective because they have experience in, and an affinity for, the process of formalized dispute. In contrast, businessmen are accustomed to making unilateral, executive decisions.

in their fourth term are 30 positions ahead. Experience yields diminishing returns, and after five terms additional experience has at best a small impact on effectiveness. Importantly, however, we find no evidence that effectiveness eventually declines with tenure. Also, we never reject the hypothesis that the *Tenure* coefficients are the same in both parties.

The results show the magnitude of experience effects is first order. For example, having one term of experience is already more important than holding a powerful committee chair, and slightly less than being in the majority party. In the next section we explore the source and character of these experience effects.

Finally, we also ran specifications analogous to those in Table 1 using the data for the NC state Senate. The results are quite similar to those for NC House. In particular, *Effectiveness* rises sharply with tenure in the first few terms in all specifications and for all subsamples, even controlling for leadership positions. We cannot confidently identify the effect of majority party status, however, because the Senate was under Democratic control throughout the period. In the interest of space we do not present or discuss these results in detail, but they are available from the authors on request.

5. Effectiveness and Tenure

The estimates in Table 1 show clearly that average relative performance in the legislature increases with experience, even controlling for institutional leadership positions, majority party status, and other factors. This increase in effectiveness could reflect a real increase in legislative abilities, perhaps via learning-by-doing or perhaps through investment in specific skills needed for legislative work. On the other hand, the increase might mainly reflect selective re-election and retirements. If the electoral process is good at weeding out under-performing politicians and/or those who are not effective retire earlier (perhaps because they do not enjoy the job), then average performance could rise with seniority simply as a consequence of selection.

To isolate the effects of electoral selection and retirement, we estimate specifications

similar to those in Table 1, but restrict the sample to the set of legislators first elected between 1976 and 1994 who served four consecutive terms in the House of Representatives. Also, we only include the observations on the first four terms served for each of these legislators. The result is a balanced panel about which we can make more meaningful conditional statements.

Table 2 presents the results. Columns 1 and 2 show the same specification of Table 1 using the restricted sample. Again, we present random effects and fixed effects estimates. Columns 3 and 4 show fixed effects estimates for each party separately.

Looking first at columns 1 and 2, the estimates show clearly that conditional on serving at least four terms in the legislature, a legislator's effectiveness rating increases with tenure, even controlling for institutional positions. Average relative performance increases sharply between the first period and the second, and again between the second period and the third; it increases again, but more gradually, from the third period to the fourth. The coefficients from the random effects model are close to those in Table 1. The coefficients from the fixed effects model imply an even steeper profile. This indicates that the positive effect experience has on effectiveness is not due primarily to electoral selection and selective retirements. Surviving legislators become more effective with experience.

The coefficients on the committee leadership variables are somewhat smaller than in the unrestricted sample, but the coefficient on *Chamber Leader* is larger. This might reflect the fact that very few representatives obtain chamber leadership positions early in their legislative career. The estimated effect of being a member of the majority party is similar to that in the unrestricted sample.

The estimates in columns 3 and 4 suggest that tenure has a larger impact on Republicans than Democrats, but the differences are not statistically significant.

The nature of the experience effect is unclear. One possibility is that it largely reflects a process of learning-by-doing. Legislators might acquire important knowledge and skills just by being in the General Assembly – watching how other legislators write bills and push them through the process, participating in committee hearings, mark-up sessions, and floor

debates, and so on. Another possibility is that it reflects a costly investment decision – extra time and energy spent learning the legislative process that could be spent on other activities. The principal difference between these two hypotheses is that the latter is affected by the incentives to invest, while the former is "automatic" and relatively costless.

To assess these two hypotheses, we separate legislators into different groups that *ex ante* should have different incentives to invest. The results of this are shown in Table 3. The specifications presented in the table include individual fixed effects (random effects regressions produce qualitatively similar results).

In column 1 we test whether legislators who are younger when they first enter the House have steeper effectiveness-experience profiles (thus, $Group = 1$ for those with $Age\ of\ Entry < 50$, and $Non\text{-}Group = 1$ for those with $Age\ of\ Entry \geq 50$). Younger legislators should expect to have longer legislative careers, and may be more likely to consider the state House as a stepping-stone in their political careers. If so, they have a greater incentive to invest, and should have steeper effectiveness-experience profiles. As the coefficients and F-statistic in the table show, however, we cannot reject that the profiles are the same for both groups.

Column 2 shows the results of another test. Here we compare the effectiveness-experience profiles of Democrats and Republicans in the period up to 1992. This was a period of Democratic dominance. The returns to investing in legislative skills should be higher for members of a dominant majority party, because *ceteris paribus*, their bills are more likely to pass. For example, over the period 1983-1990, Democrats in the House introduced an average of 22.8 bills per legislator, 7.6 of which were ratified; Republicans introduced 8.5 bills per legislator, 2.2 of which were ratified. Examining Table 3, the investment hypothesis again fares poorly. The effectiveness-experience profiles of Democrats and Republicans look similar, and the F-test does not reject the hypothesis that they are the same.

The tests above are not very strong, so we hesitate to draw strong conclusions. Tentatively, however, the evidence suggests that most of the increase in performance that comes from experience is due to learning-by-doing on the job.

Can we say anything about what legislators learn? In column 3, we test whether legislators with previous legislative service have flatter effectiveness-tenure profiles than newcomers (thus, *Group* = 1 for those *Previous Service* = 1, and *Non-Group* = 1 for those with *Previous Service* = 0). This is in fact the case, and we can reject the hypothesis that there is no difference between the groups at the 10% confidence level. Legislators with previous service begin with a higher effectiveness ranking than those without previous service (see Table 1), but their ranking grows more slowly with additional experience. The pattern is consistent with the hypothesis that the newcomers are "catching up," learning things that those with previous service have already learned. This suggests that at least part of what is learned is knowledge specific to the General Assembly.

Column 4 shows yet another cut at the data. If the knowledge acquired in the legislature is related purely to technical aspects of law-making – legal jargon, the structure of existing law, *etc.* – then lawyers should begin with higher effectiveness rankings, but have flatter profiles, because they already possess much of this knowledge. Table 1 shows that lawyers are more effective, but column 4 of Table 3 shows that their effectiveness-experience profiles are just as steep as those of non-lawyers. Lawyers are simply more effective legislators throughout their careers. This suggests that legal technicalities are not at the core of what legislators learn with experience.

Of course, there are many other possibilities. Legislators might aquire detailed knowledge about particular policy areas – budgeting, taxation, transportation, education, health care, social services, *etc.* – and how different policies interact; they might learn who is who and who knows what in the executive branch; the preferences and personalities of other legislators and how to bargain with them; who are potential partners in promoting different kinds of bills; and which staffers are more efficient and get the work done.

6. Allocating Positions of Power

In an efficient legislature, the most talented legislators should obtain important leadership

positions sooner than less talented individuals. An efficient legislature should also allocate important positions on the basis of previous performance. How efficient is the North Carolina House of Representatives in these terms?

To assess the first of these criteria, we need a measure of "talent." We use the effectiveness rating a legislator receives in his or her first term. This is arguably a good measure of a member's relative aptitude for legislative work, where aptitude is interpreted broadly to include skills, drive, personality, and how much the member enjoys legislative tasks. As noted above, the ranking is done at the end of the first "long session" in which a legislator serves, so legislators, lobbyists and journalists have had some time to see the legislator at work. However, almost no legislators hold powerful positions in their first term, so the initial ratings are not influenced by variations in institutional power.

We examine whether legislators with high initial effectiveness evaluations advance to powerful committee positions more quickly than other legislators. We focus on the dependent variable *Power Committee Leader*, which is 1 for the chairs, vice-chairs and subcommittee chairs of the five most powerful committees in each chamber. Since this is a dichotomous variable, we run probit regressions. To control for seniority effects (as well as selection issues due to attrition), we estimate models for legislators with the same amount of tenure. We consider three sub-samples: legislators in their second term, those in their third term, and those in their fourth term.

Table 4 presents the results. The first three columns show the effect of increased aptitude on the probability of attaining a powerful committee position by a legislator's second, third or fourth term. For legislators in their second and third terms, *Effectiveness 1* has a significant and positive effect. This effect does not appear in the fourth term, but the sample is small. The estimated effects in the second and third terms are quite large. Consider the third term. Holding all other variables at their mean values, an increase in *Effectiveness 1* from one-half of a standard deviation below the mean to one-half of a standard deviation above the mean (24 points, in the relevant sub-sample), increases the probability a legislator is promoted to

a powerful committee position from .22 to .31, a 50% increase.[16]

In columns 4 and 5 we examine the effect of previous performance on the probability of attaining a powerful committee position by a legislator's third or fourth term. The independent variable of interest in these specifications is *Lagged Effectiveness* (the lag is one period). This variable is statistically and substantively significant in both the third and fourth terms. For example, legislators with higher effectiveness rankings in their second term are more likely to be promoted to a powerful committee leadership positions in their third term. Interestingly, columns 3 and 5 in the table imply that although the impact of *Effectiveness 1* has faded by the fourth term, recent effectiveness still matters for promotions.

Clearly, we also expect seniority to be strongly related to promotions. Table 5 shows the relative importance of seniority and aptitude, where aptitude is again measured using *Effectiveness 1*. We divide the sample into *Low* and *High* initial effectiveness categories, splitting each cohort at the median. Looking across the columns of the table, we see that seniority has a large influence on the probability a legislator attains a powerful committee position. Looking down the rows, we see that initial effectiveness also matters. In particular, having a *High* value of *Effectiveness 1* increases a legislator's probability of promotion by an amount that is approximately equal to one additional term of service.[17]

Overall, seniority dominates the internal promotion process. Since tenure is strongly related to effectiveness, seniority rule might actually be a good way to allocate top committee and party leadership posts. We can use our data to calculate the relative efficiency of different promotion procedures.[18] A completely random allocation of posts would produce a group

[16]Separate analyses by party confirm the results in Table 4. For example, for legislators in their second term the estimated coefficient on *Effectiveness 1* is .016 for Democrats and .023 for Republicans. Both are statistically significant at the .05 level.

[17]The attrition rates shown in Table 5 exhibit an interesting pattern. Legislators with *Low* aptitude are almost as likely to survive four terms in the legislature as those with *High* aptitude. However, a noticeably larger fraction of the *Low*-aptitude legislators leave the legislature after only one term of service. This suggests that the nature of the attrition processes is different for the two groups. For example, *Low*-aptitude legislators might tend to lose elections or retire, and *High*-aptitude legislators might tend to seek higher offices, which are not offered to inexperienced politicians.

[18]For this exercise we include party leaders as well as committee leaders. That is, we consider all posts for which *Power Committee Leader* = 1 or *Chamber Leader* = 1.

of powerful committee and party leaders with an average effectiveness ranking of 60.0. The first-best allocation – *i.e.* allocating posts to the legislators with the highest "intrinsic effectiveness" rankings – would produce an average effectiveness of 81.3.[19] Strict adherence to seniority rule would produce an average effectiveness of 72.4. In the data, the actual average effectiveness ranking for committee and party leaders is 73.0. Thus, seniority rule is closer to the fully efficient outcome than to the outcome under a random allocation. The chamber does even better in practice – though not by much.

7. Effectiveness and Reelection

In this section we explore whether being a more effective representative yields electoral or other career benefits.

The heavy use of first-past-the-post, multi-member districts in the North Carolina state legislature complicates the study of electoral outcomes. In addition, many races are fully or partially uncontested. Analyses with vote-share as the dependent variable must drop these cases, and doing so is likely to introduce selection bias. We therefore focus on two other electoral outcome variables: *Reelected* and *Unopposed*. We also present one tentative analysis with total votes as the dependent variable. In addition, we study two "career" variables: *Sought Higher Office* and *Retired*.[20]

Tables 6 contain the results for the electoral outcome variables.[21] The first two columns examine whether being effective helps in a reelection bid. In the first column the sample consists of all NC House representatives who seek reelection. In the second column we

[19]To measure each legislator's "intrinsic effectiveness," we regress *Effectiveness* on all of the variables in column 1 of Table 1 other than the *Tenure* variables, and take the legislator-specific fixed effects. Note that while this is a reasonable theoretical benchmark it is almost surely unattainable in practice.

[20]It would be interesting to study the cases where a state representative runs against a state senator and we have *Effectiveness* evaluations for both candidates, but there are too few such cases in our sample.

[21]Two caveats must be mentioned. First, we do not have a good measure of challenger "quality," so there is some danger of omitted variable bias. Second, incumbents may retire strategically in order to avoid a probable defeat, leading to selection bias. Previous analyses of state legislative elections have ignored these issues, except possibly to note that they are potential problems (*e.g.*, Holbrook and Tidmarch, 1991; King, 1991; Cox and Morgenstern, 1993, 1995).

restrict attention to freshmen seeking reelection, to avoid potential selection bias. In both cases *Effectiveness* has a strong, positive impact on reelection. Holding all other variables at their means, a one- standard-deviation increase in *Effectiveness* (34 positions) centered on the mean increases the probability of reelection from 89% to 95%. This effect is magnified over the course of a career. For example, it translates into a 16 percentage point increase in the probability of winning three elections in a row, from 70% to 86%.[22]

As expected, *Normal Vote* has a strong effect as well. Most other variables are insignificant. These findings are consistent with studies of congressional races, which typically find that institutional positions have little independent effect on election outcomes.[23]

In columns 3 and 4 we study the probability a legislator is unopposed. The results show that higher *Effectiveness* significantly decreases the chances a legislator is challenged.[24] Using the coefficients from column 3, a one-standard-deviation increase in *Effectiveness* centered at the mean reduces the probability of being challenged by 10 percentage points, from 67% to 57%. As expected, *Normal Vote* also has an important impact on contestation, because it reduces the chances that a challenge is successful.

We can exploit multi-member districts to study the impact of *Effectiveness* on total votes, at least for a subset of cases. This is shown in the last column in Table 6. We pool all multi-member districts in the sample, and regress the total votes received by each incumbent on *Effectiveness* and *Tenure*. We control for all other characteristics of a race by including a fixed effect for each party in each district in each year. Thus, we compare the votes of equally experienced incumbents from the same party who are running against one another in the same district in the same year. The estimates imply that a one-standard deviation increase in *Effectiveness* (34 positions) increases an incumbent's expected vote by about 500 votes. This represents 2% of the average vote received, or about one-third of the median

[22]In the case of freshmen, the probability of reelection increases from 82% to 87%, and the probability of winning three consecutive terms increases from 55% to 66%. Our findings are similar to Luttbeg (1992).

[23]See, *e.g.*, Bullock (1972) and Fowler, Douglass, and Clark (1980).

[24]This is consistent with Mondak (1995c).

incumbency advantage estimated for state legislators nationwide.[25]

Legislative effectiveness might have a larger impact on elections in North Carolina than in other states, precisely because a respected set of rankings exists. In North Carolina, the rankings are even used in campaign advertising.[26] This might explain why our findings differ from those of other scholars, such as Wawro (2000) who finds that bill sponsorship in the U.S. House is unrelated to reelection.

Table 7 examines the impact of *Effectiveness* on career decisions taken by legislators. Columns 1 and 2 examine the effect of performance on the decision to retire from politics. This effect appears significant for the whole sample, but not for freshmen. Interestingly, it Age is not a good predictor of retirement, but *Tenure* is.[27]

A similar picture arises in columns 3 and 4 where we examine the impact of *Effectiveness* on the decision to run for a higher office (whether the bid is successful or not). The results show that this effect is significant for the whole sample, but not for freshman. This points to another benefit of being an effective legislator: access to higher positions for those with progressive ambition. Overall, this set of results suggests that more effective legislators retire less often and seek higher office with higher probability.

8. Discussion and Conclusions

In this paper we study an under-utilized source of data on legislative effectiveness. The data can be used to measure both the performance and aptitude of legislators. Our analysis reveals several interesting patterns. First, legislators' effectiveness increase sharply during the first few terms of service. This finding is quite robust, and holds even after controlling for institutional positions and electoral selection. The increasing performance appears to be due mainly to learning-by-doing rather than costly investment in specific skills. Second, belonging to the majority party in the legislature increases legislator's performance over and

[25]See King (1991) and Cox and Morgenstern (1993,1995).

[26]Informing citizens about their representatives' performance is, in fact, a goal of the NC Center.

[27]This is consistent with Kiewiet and Zeng (1993).

above access to more powerful positions (at least in the NC House of Representatives). Third, the NC House appears to use both past performance and seniority as criteria for allocating positions of power; but, since performance increases with tenure, the system behaves closely to one governed by a pure seniority rule. Fourth, superior effectiveness yields electoral benefits in the form of higher reelection rates and a higher probability of being unchallenged. Also, more effective legislators tend to seek higher offices more often, and retire less quickly.

These findings have important implications for arguments about term limits, the incumbency advantage, and seniority rule.

We make three comments on term limits. First, the fact that elections tend to oust ineffective legislators more often than effective ones means that term limits may not be necessary as a mechanism for weeding out under-performing legislators, at least in North Carolina.[28] Second, the fact that legislative effectiveness increases sharply during the first few terms of the typical legislator's career means that term limits might impose substantial costs in the form of lost capability and expertise. We cannot estimate the magnitude of the loss because our data are only ordinal. However, a simple calculation suggests that the losses are not trivial. On average, about 29% of the representatives in North Carolina are serving their 5th or higher term. If a term limit of four terms implied that all of these members would be replaced with freshmen, then the NC House would lose nearly 50% of its "person-years" of effective experience.[29] Third, the fact that high-skilled legislators are more likely to attain powerful positions on key committees and inside party leaderships further increases the costs of term limits. The key committees have jurisdiction over crucial policies – the tax code, state spending priorities, constitutional issues – where poor decisions and

[28]See Mondak (1995a, 1995b) and Petracca (1995) for a discnssion of the potential effects of term limits on average quality of the legislatnre.

[29]The calculation is as follows: On average, 23% of all representatives are freshmen, 20% are sophomores, 16% are in their 3rd term, 12% are in their 4th term, and 29% are in their 5th or higher term. Assign "years of effective experience" as follows: freshmen = 0, sophomores = 1, 3rd term = 2, 4th term or higher = 3. Then the average number of "years of effective experience" in the NC House is 208.6. Turning all those with 5+ terms into freshmen would reduce this to 105.3, a drop of 49.5%. Gilmour and Rothstein (1994) analyze this effect of term limits.

poorly written laws are likely to impose especially high social costs. It is therefore important to fill these positions with highly competent legislators, and having found such legislators it is costly to remove them via term limits.

Of course, our findings do not establish that term limits would do more harm than good. A thorough analysis must go much further in quantifying the costs, and must then balance these costs against the potential benefits, such as the possibility that long periods of service lead legislators to adopt an inside-the-capitol view of public policies that does not reflect the views of their constituents.

The fact that effectiveness rises with tenure may help account for the incumbency advantage in legislative elections. If voters care about their legislator's effectiveness, then there will be an electoral bias in favor of incumbents that is due simply to their accumulated experience. The fact that effectiveness increases steeply with experience during the first few terms but then levels-off is also broadly similar to the patterns observed in estimates of the incumbency advantage over legislators' careers. For example, Hibbing (1991) and Ansolabehere, *et al.* (2000) find that in the U.S. House the typical incumbent's vote grows quickly over the first few election cycles but then hits a plateau.

Our results help evaluate the costs and benefits of seniority rule. A system that promotes legislators to powerful positions purely on the basis of seniority is almost surely sub-optimal, because legislators have different skills and preferences for legislative work. As our calculations suggest, however, since effectiveness grows with experience, it is reasonably efficient to use seniority as the main criterion for promotion.

Our results also reveal an important omission in the theoretical literature on electoral accountability and selection. This large and growing body of work models the interactions between voters and politicians as a principal-agent relationship, focusing on the ability of voters to hold politicians accountable and/or choose "good" politicians.[30] None of the ex-

[30]See, for example, Persson and Tabellini (2000), Chapter 4, and the cites therein. More recent work includes Ashworth (2002), Besley and Ghatak (2003), and Smart and Sturm (2003).

isting models incorporate learning-by-doing by politicians. Some of these models, such as Banks and Sundaram (1993) and Ashworth (2002), even predict that performance will diminish over politician's career. Our findings suggest that the reduction in effort associated with the logic of career concerns is more than offset by learning how to do legislative work, resulting in increasing performance over time.

Finally, there is much more to learn using the NC Center's data. We find that prior performance helps legislators attain positions of power, but what about other factor such as party loyalty? Cox and McCubbins (1993) and others argue that party leaders in the U.S. House allocate committee chairs and other powerful positions to those who vote along party lines. Is this true for the NC House? More interestingly, what is the relative importance of loyalty and effectiveness? Many other questions come to mind as well. Are ideologically moderate legislators, who may be better positioned to forge legislative coalitions, more effective? Are lobbyists' evaluations more closely related to campaign donations from special interests? Are journalists' evaluations more reflective of the "public interest"? Are more effective legislators better at bringing home the bacon? Do multi-member districts lead to less accountability and thereby less effectiveness? What about marginal vs. safe districts? Does the lack of competition in the general election produce legislators that are less effective? Or are primaries just as good at weeding out ineffective politicians? Work that merges the effectiveness ratings with other data – roll calls, campaign contributions, and state government spending – should generate interesting insights about internal legislative politics, electoral accountability, and selection.

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Appendix Table A.1: Variable Definitions	
Variable	Definition
Effectiveness	inverse of effectiveness rank; = 120 for the top-ranked house member, and 1 for lowest-ranked member
Effectiveness 1	legislator's Effectiveness at the end of his or her first term
Chair of Power Committee	1 if legislator is chair or co-chair of one of 5 most powerful committees
Vice Chair of Power Committee	1 if legislator is vice chair or ranking member of one of 5 most powerful committees, or chair of Appropriations subcommittee
Leader of Power Committee	Max(Chair of Power Committee, Vice Chair of Power Committee)
Number of Power Committees	number of Power committees on which a legislator serves
Chair of Other Committee	1 if legislator is chair of a committee that is not one of 5 most powerful committees
Vice Chair of Other Committee	1 if legislator is vice chair or ranking member of a committee that is not one of 5 most powerful committees
Chamber Leader	1 if legislator is Speaker of the House, President Pro Tempore of the Senate, Majority Leader, Minority Leader, Deputy Speaker, Deputy President Pro Tem., Majority Whip, or Minority Whip
Democrat	1 if legislator is a Democrat
Majority Party	1 if legislator is member of majority party
Lawyer	1 if legislator is a lawyer
Previous Service	1 if legislator has served previously in the NC General Assembly, and service ended 3 or more years before beginning of current term
Age	legislator's age
Age at Entry	legislator's age in freshman year
Tenure	number of terms legislator has served in chamber including current term
Tenure 1, Tenure 2, etc.	1 if legislator is in his or her first term (a freshman), 1 if legislator is in his or her second term, *etc.*
Tenure 5+	1 if legislator is in his or her fifth or higher term
Normal Vote	normal vote measures using election for statewide offices; see text
Uncontested	1 if legislator seeks reelection and is uncontested
Reelected	1 if legislator seeks reelection and wins
Sought Higher Office	1 if legislator seeks higher office (state senate, statewide office, or Congress, including appointed positions)
Retired	1 if legislator retired from politics

Appendix Table A.2: Summary Statistics				
Variable	Mean	St Dev	Min	Max
Effectiveness	61.0	34.4	1	120
Effectiveness 1	34.5	24.3	1	116
Chair of Power Committee	.06	.24	0	1
Vice Chair of Power Committee	.20	.40	0	1
Leader of Power Committee	.24	.43	0	1
Number of Power Committees	1.55	.72	0	4
Chair of Other Committee	.25	.44	0	1
Vice Chair of Other Committee	.27	.44	0	1
Chamber Leader	.04	.20	0	1
Democrat	.67	.47	0	1
Majority Party	.68	.47	0	1
Lawyer	.18	.39	0	1
Previous Service	.09	.29	0	1
Age	54.0	12.2	24	90
Age at Entry	48.5	11.2	24	73
Tenure	3.67	2.78	1	19
Tenure 1	.23	.42	0	1
Tenure 2	.20	.40	0	1
Tenure 3	.16	.37	0	1
Tenure 4	.12	.32	0	1
Tenure 5+	.29	.45	0	1
Normal Vote, 1976-1980	.54	.06	.42	.75
Normal Vote, 1982-1990	.57	.09	.38	.78
Normal Vote, 1992-2000	.59	.09	.40	.83
Reelected	.89	.30	0	1
Uncontested	.39	.49	0	1
Sought Higher Office	.05	.22	0	1
Retired	.10	.30	0	1

Table 1: Determinants of Average Effectiveness, 1977-2002						
Dep. Var. = Effectiveness	FE All Reps.	RE All Reps.	FE Democs.	RE Democs.	FE Repubs.	RE Repubs.
Tenure 2	17.33**	17.73**	19.22**	18.50**	17.47**	19.13**
	(1.32)	(1.24)	(1.75)	(1.63)	(2.35)	(2.22)
Tenure 3	25.50**	25.83**	25.79**	24.68**	26.02**	28.14**
	(1.65)	(1.44)	(2.14)	(1.89)	(2.89)	(2.48)
Tenure 4	29.75**	30.49**	30.75**	29.96**	29.81**	32.44**
	(1.95)	(1.60)	(2.41)	(2.02)	(3.66)	(2.99)
Tenure 5	33.03**	34.42**	35.01**	34.06**	31.06**	36.86**
	(2.47)	(1.64)	(2.90)	(2.00)	(4.92)	(3.31)
Power Committee Chair	14.05**	16.29**	12.99**	15.47**	17.23**	19.74**
	(1.86)	(1.82)	(2.05)	(2.00)	(4.05)	(4.03)
Power Committee Vice Chair	8.45**	9.26**	6.75**	7.68**	12.28**	13.30**
	(1.16)	(1.12)	(1.27)	(1.23)	(2.63)	(2.58)
Other Committee Chair	8.11**	8.32**	7.29**	8.22**	7.08*	6.52*
	(1.35)	(1.31)	(1.66)	(1.59)	(2.98)	(2.97)
Other Committee Vice Chair	2.50*	1.98	2.09	2.27	.22	−1.21
	(1.14)	(1.10)	(1.46)	(1.39)	(2.25)	(2.20)
Chamber Leader	12.74**	16.06**	11.09**	12.29**	19.58**	22.63**
	(2.22)	(2.19)	(2.65)	(2.63)	(3.95)	(3.88)
Majority Party	21.06**	20.88**	–	–	–	–
	(1.33)	(1.24)				
Lawyer	–	20.09**	–	18.79**	–	19.36**
		(2.49)		(2.71)		(5.92)
Previous Service	–	7.61*	–	18.73**	–	.666
		(3.46)		(4.74)	–	(5.32)
Age at Entry	–	−.454**	–	−.603**	–	−.273
		(.086)		(.101)		(.158)
N	1,540	1,540	1,039	1,039	501	501
Hausman test statistic		354.7		164.7		81.3
P-value		.000		.000		.000

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

All specifications include year fixed effects.

The excluded tenure category is *Tenure 1*, so the *Tenure* coefficients represent differences with respect to the valuation of freshmen.

The Hausman test statistics (columns 2, 4 and 6) are for hypothesis that the individual effects are orthogonal to the regressors.

Table 2: Survivor Analyses to Estimate Experience Effects, 1977-2002				
Dep. Var. = Effectiveness	FE All Reps.	RE All Reps.	FE Democrats	FE Republicans
Tenure 2	20.72**	17.19**	16.75**	22.76**
	(4.02)	(1.83)	(5.25)	(6.86)
Tenure 3	31.86**	24.88**	22.84**	35.98**
	(7.41)	(2.22)	(9.56)	(12.36)
Tenure 4	39.44**	29.43**	26.44**	44.70**
	(10.78)	(2.54)	(13.85)	(18.05)
Power Committee Chair	13.10**	16.41**	10.56*	10.80
	(3.89)	(3.79)	(5.24)	(6.64)
Power Committee Vice Chair	8.89**	10.44**	8.18**	8.13*
	(1.85)	(1.81)	(2.22)	(3.90)
Other Committee Chair	9.84**	10.22**	11.48**	4.59
	(2.07)	(2.04)	(2.71)	(4.45)
Other Committee Vice Chair	2.53	2.56	4.87*	−1.71
	(1.68)	(1.66)	(2.30)	(3.18)
Chamber Leader	19.12**	20.62**	11.06*	26.54**
	(3.92)	(3.79)	(5.62)	(6.01)
Majority Party	21.36**	21.38**	–	–
	(2.00)	(1.91)		
Lawyer	–	18.75**	–	–
		(4.45)		
Previous Service	–	5.74	–	–
		(4.73)		
Age at Entry	–	−.560**	–	–
		(0.15)		
N	582	582	351	231
Hausman test statistic		72.25		
P-value		.000		

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

Sample restricted to the first four terms of all legislators first elected between 1976 and 1994 who served four consecutive terms in the same chamber.

All specifications include year fixed effects.

The excluded tenure category is *Tenure1*, so the *Tenure* coefficients represent differences with respect to the valuation of freshmen.

The *Tenure* coefficients are not significantly different between columns 3 and 4, so there is little evidence of differential experience effects across parties.

Table 3: Testing Hypothesis on Experience Effects, 1977-2002				
Dep. Variable = Effectiveness	Model and Sample			
Sample: Group tested:	1977-2001 Age at Entry < 50	1977-1993 Democrats	1977-2001 Previous Service	1977-2001 Lawyers
Tenure 2 – Group	22.02**	15.26**	13.53*	20.86**
	(4.28)	(5.69)	(6.02)	(5.51)
Tenure 2 – Non-Group	18.52**	10.34	20.53**	20.75**
	(4.38)	(6.45)	(4.01)	(4.06)
Tenure 3 – Group	32.16**	25.04*	20.2*	26.73**
	(7.45)	(10.09)	(8.79)	(8.36)
Tenure 3 – Non-Group	29.24**	20.22	31.09**	32.83**
	(7.82)	(10.59)	(7.40)	(7.44)
Tenure 4 – Group	39.56**	30.83*	26.42*	37.06**
	(10.85)	(14.45)	(12.02)	(11.33)
Tenure 4 – Non-Group	35.56**	28.68	37.74**	40.11**
	(11.18)	(15.03)	(10.75)	(10.82)
Power Committee Chair	12.66**	15.13**	12.98**	14.14**
	(3.93)	(5.67)	(3.89)	(3.96)
Power Committee Vice Chair	8.72**	10.79**	8.41**	9.02**
	(1.86)	(2.42)	(1.85)	(1.87)
Other Committee Chair	9.56**	15.75**	8.92**	10.17**
	(2.08)	(3.09)	(2.09)	(2.10)
Other Committee Vice Chair	2.31	9.33**	2.23	2.64
	(1.69)	(2.47)	(1.68)	(1.69)
Chamber Leader	19.12**	40.03**	20.24**	20.44**
	(3.93)	(5.56)	(3.93)	(4.01)
Majority Party	21.48**	–	21.57**	21.21**
	(2.00)		(2.00)	(2.03)
N	582	304	582	582
F test statistic	0.68	0.52	2.36	0.93
P-value	0.56	0.67	0.07	0.43

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

All specifications include year fixed effects and individual fixed effects.

Sample restricted to the first four terms of all legislators elected between 1976 and 1994 who served four consecutive terms in the same chamber.

The excluded tenure category is *Tenure1*, so the *Tenure* coefficients represent differences with respect to the valuation of freshmen.

The F test statistic is for the joint test of equality of the *Tenure* coefficients across groups.

Table 4: Advancement to Powerful Positions in the House, 1977-2002					
Dep. Var. = Power Committee Leader	Tenure=2	Tenure=3	Tenure=4	Tenure=3	Tenure=4
Effectiveness 1	.018**	.011*	.003	–	–
	(.005)	(.005)	(.007)		
Power Committee When Freshman	.327	−.105	.283	–	–
	(.192)	(.204)	(.278)		
Effectiveness Lagged	–	–	–	.012**	.011*
				(.004)	(.005)
Committee Leader Lagged	–	–	–	.539	1.25**
				(.316)	(.309)
Majority Party	1.33**	1.34**	4.61**	4.43**	6.93**
	(.324)	(.292)	(.689)	(.757)	(.693)
Majority Party Lagged	–	–	–	−4.00**	−3.01**
				(.783)	(.634)
Democrat	−.740*	−.531	−2.88**	−.325	−2.53**
	(.343)	(.301)	(.736)	(.325)	(.724)
N	270	199	146	227	176

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

Year effects are included in all specifications.

All columns show probit regression coefficients.

Table 5: Ability vs. Seniority in the Advancement to Powerful Positions in the House, 1977-2002				
	Terms in Office			
Effectiveness 1	1	2	3	4
Low	.017 (.131) 173	.101 (.303) 118	.244 (.432) 90	.313 (.467) 67
High	.081 (.274) 172	.270 (.446) 137	.364 (.483) 99	.366 (.485) 71
t-statistic p-value		3.57 .00	1.78 .038	.651 .258

Sample includes all legislators for which *Effectiveness 1* is observed. The first number in each cell gives the fraction of legislators in that category that hold a powerful position. The second number is the standard error, reported in parentheses. The third number is the frequency of that category.

The t-statistic is for a one-sided test of the hypothesis of no difference between legislators with High and Low values of *Effectiveness 1*.

Table 6: Effectiveness and Electoral Outcomes, 1978-2000					
Dep. Var. =	Reelected All Reps.	Reelected Freshmen	Unopposed All Reps.	Unopposed Freshmen	Votes MMDs
Effectiveness	.013**	.010*	.008**	.014**	16.51**
	(.002)	(.004)	(.001)	(.004)	(3.97)
Age	−.004	−.011	.003	.001	−7.51
	(.005)	(.008)	(.004)	(.008)	(8.36)
Majority Party	−.521**	−.371	.004	−.126	–
	(.147)	(.219)	(.103)	(.196)	
Power Committee Chair	−.109	–	−.118	–	−118.87
	(.316)		(.189)		(400.78)
Power Committee Vice Chair	−.252	−.002	−.150	−.429	−148.22
	(.153)	(.498)	(.112)	(.474)	(238.65)
Tenure	.012	–	−.039	–	56.95
	(.027)		(.020)		(45.19)
Year	.027	.003	.002	.001	–
	(.019)	(.034)	(.015)	(.033)	
Normal Vote, 1976-1980	5.79**	5.83**	5.98**	6.22**	–
	(.896)	(1.54)	(.567)	(1.43)	
Normal Vote, 1982-1990	4.99**	4.38**	7.04**	7.55**	–
	(.727)	(1.12)	(.542)	(1.11)	
Normal Vote, 1992-2000	4.42**	4.59**	6.70**	7.11**	–
	(.720)	(1.12)	(.531)	(1.05)	
N	1,100	284	1,095	280	623

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

Sample is restricted to representatives seeking reelection to the NC House of Representatives.

Columns 1-4 show probit regression coefficients.

Column 5 is a linear regression, and includes year×district×party fixed effects.

Table 7: Effectiveness and Career Decisions, 1978-2000				
Dep. Var. =	Retired All Reps.	Retired Freshmen	Higher Office All Reps.	Higher Office Freshmen
Effectiveness	−.005*	−.015	.006*	.002
	(.002)	(.009)	(.003)	(.007)
Age	−.006	−.029*	−.019**	−.011
	(.005)	(.014)	(.007)	(.014)
Majority Party	−.116	−.214	−.309	.198
	(.146)	(.399)	(.192)	(.389)
Power Committee Chair	.421	–	.176	–
	(.228)		(.305)	
Power Committee Vice Chair	.267	1.22	−.079	.899
	(.149)	(.663)	(.213)	(.525)
Tenure	.098**	–	−.031	–
	(.023)		(.041)	
Year	.054	.119	.042	.033
	(.023)	(.083)	(.029)	(.093)
Normal Vote, 1976-1980	2.59*	6.23*	−.189	–
	(.851)	(2.94)	(1.23)	
Normal Vote, 1982-1990	.669	1.98	−.695	.331
	(.717)	(2.33)	(.974)	(1.93)
Normal Vote,1992-2000	−.358)	.746	−1.65	−.313
	(.753)	(2.38)	(1.01)	(1.82)
N	1,217	299	1,149	261

Standard errors in parentheses; **= significant at the .01 level; *= significant at the .05 level.

All columns show probit regression coefficients.

Higher Office denotes representatives who sought election for a higher office or accepted an appointment to a higher office.

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